6DQ5

Beam Power Tube

For Use as a Horizontal-Deflection Amplifier Tube in Color and Black-and-White Television Receivers

GENERAL DATA

Electrical:

Heater Characteristics and Ratings:			
Voltage (AC or DC)	6.3 ± 0.6		volts
Current at heater volts = 6.3	2.500		amp
Peak heater-cathode voltage:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200[a]	max.	volts
Direct Interelectrode Capacitances:[b]			
Grid No.1 to plate	0.5		pf
Grid No.1 to cathode & grid No.3, grid No.2, and heater	23.0		pf
Plate to cathode & grid No.3, grid No.2, and heater	11.0		pf

Characteristics, Class A_1 Amplifier:

			Triode Connection[c]	
Plate Voltage	70	175	125	volts
Grid No.2 (Screen-Grid) Voltage	125	125	–	volts
Grid No.1 (Control-Grid) Voltage	0	-25	-25	volts
Amplification Factor	–	–	3.3	
Plate Resistance (Approx.)	–	5500	–	ohms
Transconductance	–	10500	–	μmhos
Plate Current	550[d]	110	–	ma
Grid-No.2 Current	42[d]	5	–	ma
Grid-No.1 Voltage (Approx.) for plate ma. = 1	–	-55	–	volts

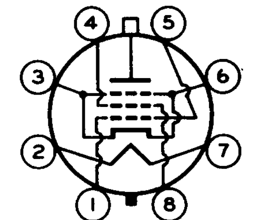
Mechanical:

Operating Position . . . . Any
Type of Cathode . . . . Coated Unipotential
Maximum Overall Length . . . . 5"
Seated Length . . . . 4-1/4" ± 3/16"
Maximum Diameter . . . . 1-9/16"
Bulb T12
Cap . . . . Small (JEDEC No.C1-1)
Base . . . . Short Meduim-Shell Octal 8-Pin with External Barriers, Style B (JEDEC No.B8-118)

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Basing Designation for BOTTOM VIEW. 8JC

Pin 1 - Grid No.1
Pin 2 - Heater
Pin 3 - Cathode, Grid No.3
Pin 4 - Grid No.2
Pin 5 - Grid No.1



Pin 6 - Cathode, Grid No.3
Pin 7 - Heater
Pin 8 - Grid No.2
Cap - Plate

HORIZONTAL-DEFLECTION AMPLIFIER

→ **Maximum Ratings,** *Design-Maximum Values:*

For operation in a 525-line, 30-frame system[e]

DC PLATE-SUPPLY VOLTAGE	990 max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE[f]	6500 max.	volts
PEAK NEGATIVE-PULSE PLATE VOLTAGE	1100 max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE. . . .	190 max.	volts
PEAK NEGATIVE-PULSE GRID-No.1 VOLTAGE . .	250 max.	volts
CATHODE CURRENT:		
Peak.	1100 max.	ma
Average	315 max.	ma
GRID-No.2 INPUT	3.2 max.	watts
PLATE DISSIPATION[g].	24 max.	watts
BULB TEMPERATURE (At hottest point on bulb surface).	220 max.	°C

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For grid-resistor-bias operation[g] . . .	0.47 max.	megohm

[a] The dc component must not exceed 100 volts.

[b] Without external shield.

[c] With grid No.2 connected to plate.

[d] These values can be measured by a method involving a recurrent wave form such that the plate dissipation, grid-No.2 input, and cathode current will be kept within ratings in order to prevent damage to the tube.

[e] As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission.

[f] This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one horizontal scanning cycle. In a 525-line, 30-frame system, 15 per cent of one horizontal scanning cycle is 10 microseconds.

[g] It is essential that the plate dissipation be limited in the event of loss of grid signal. For this purpose, some protective means such as a cathode resistor of suitable value be employed.

→ Indicates a change.

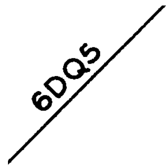


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BEAM POWER TUBE

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1 9/16" MAX.
SMALL CAP JETEC № C1-1
T12 BULB
SHORT MEDIUM-SHELL OCTAL 8-PIN BASE WITH EXTERNAL BARRIERS · STYLE B: JETEC № B8-118
4 1/4" ± 3/16"
5" MAX.
92CS-9343





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AVERAGE CHARACTERISTICS

E_f = 6.3 VOLTS
GRID-№ 1 VOLTS = 0

GRID-№ 2 MILLIAMPERES (I_{c2})
200 150 100 50 0

GRID-№ 2 VOLTS
EC2=150, 125, 100, EC2=75, 50, 25
Ib
IC2
EC2=125, 75

PLATE VOLTS
0 100 200 300 400 500

PLATE MILLIAMPERES (I_b)
800 700 600 500 400 300 200 100 0

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AVERAGE CHARACTERISTICS

E_f = 6.3 VOLTS
GRID–No. 2 VOLTS = 125

GRID–No. 2 MILLIAMPERES (I_{c2})

200 150 100 50 0

GRID–No. 1 VOLTS E_{c1} = 0, −5, −10, −15, −20, −25, −30, −35

I_b

I_{c2}

E_{c1} = 0, −10

PLATE VOLTS

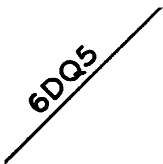
0 100 200 300 400 500

800 700 600 500 400 300 200 100

PLATE MILLIAMPERES (I_b)

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AVERAGE CHARACTERISTICS

E_f = 6.3 VOLTS
GRID-No2 VOLTS = 150

GRID-No2 MILLIAMPERES (I_{C2})

200 150 100 50 0

GRID-No1 VOLTS E_{C1} = -10

E_{C1}=0, -5, -15, -20, -25, -30, -35, -40, -45

I_{C2}

E_{C1}=0, -10

PLATE VOLTS

0 100 200 300 400 500

800 700 600 500 400 300 200 100 0

PLATE MILLIAMPERES (I_b)

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